Electronic Version
Stylesheet Version v1.1.1

Claims

[c1] What is claimed is:

1. A backlight module comprising:

a plurality of point light source generators;

a diffusing plate installed on the plurality of point light source generators for scattering the light generated by the plurality of point light source generators; and

a diffusing sheet installed above the diffusing plate for diffusing the light emitted from the diffusing plate.

[c2] 2. The backlight module of claim 1 wherein the point light source generators are light emitting diodes (LEDs).

[c3] 3. The backlight module of claim 1 wherein the diffusing plate further comprises a plurality of scattering particles to uniform the light generated by the point light source generators.

[c4] 4. The backlight module of claim 1 wherein the diffusing plate further comprises a plurality of scattering apertures installed on the surface of the diffusing plate opposite to the plurality of point light source generators, for scattering the light generated by the point light source generators uniformly.

[c5] 5. The backlight module of claim 4 wherein the number of the scattering apertures correspond to the number of the point light source generators, and the position of each scattering aperture corresponds to the position of each point light source generator.

[c6] 6. The backlight module of claim 4 wherein each of the plurality of scattering apertures is circular, rectangular, or trapezoidal in shape.

[c7] 7. The backlight module of claim 4 wherein a scattering pattern is installed in the inner wall of each scattering aperture.

[c8] 8. The backlight module of claim 1 wherein the surface of the diffusing plate further comprises a plurality of scattering patterns for scattering the light generated by the point light source generators uniformly.

[c9] 9. The backlight module of claim 8 wherein the plurality of scattering patterns comprises a plurality of V-trenches or a plurality of arc trenches.

[c10] 10. The backlight module of claim 8 wherein the plurality of scattering patterns is installed on the surface of the diffusing plate opposite to the plurality of point light source generators.

[c11] 11. The backlight module of claim 1 further comprising at least one prism sheet installed above the diffusing sheet for uniform the light diffused by the diffusing sheet.

[c12] 12. The backlight module of claim 1 further comprising at least one brightness enhancement film installed above the diffusing plate for enhancing the brightness of the backlight module.

[c13] 13. The backlight module of claim 1 further comprising a reflecting plate installed under the plurality of point light source generators for reflecting the light generated by the plurality of point light source generators to the diffusing plate.